

New Claims

1. A transdermal therapeutic system for administering a calcium antagonist of the dihydropyridine type which comprises
- (a) a backing layer, which defines the upper surface of the device,
 - (b) a drug reservoir containing a solution comprising
 - a calcium antagonist of the dihydropyridine type,
 - an alcohol selected from the group consisting of ethanol, propanol, isopropanol and n-decyl alcohol,
 - a pyrrolidone derivative, and
 - a saturated or unsaturated fatty acid ester of a carboxylic acid containing 8 – 16 carbon atoms and a polyhydroxy alcohol,
 - (c) a membrane to control the release of the active ingredient, and
 - (d) a pressure sensitive adhesive layer for attaching the system to the skin and, if necessary, a release liner on the outer face of the adhesive layer wherein the said backing layer and said membrane are connected together to form the drug reservoir.
2. A transdermal therapeutic system as claimed in claim 1 wherein the solution in the drug reservoir comprises a calcium antagonist of the dihydropyridine type, ethanol, N-methyl-2-pyrrolidinone and sorbitan palminate.
3. A transdermal therapeutic system as claimed in claim 2 wherein the solution comprises a calcium antagonist of the dihydropyridine type 3 - 5 %, ethanol 30 - 40 %, sorbitan palmitate 3 - 5 % and N-methyl-2-pyrrolidinone 50 - 60 % by weight of the total solution.
4. A transdermal therapeutic system as claimed in any of claims 1 to 3 in the form of skin patch.
5. A transdermal therapeutic system as claimed in any of claims 1 to 4 in which the calcium antagonist of the dihydropyridine type is selected from the group consisting of amlodipine, felodipine, isradipine, lacidipine, nicardipine, nifedipine, nilvadipine, nimodipine, nisoldipine, and nitrendipine.

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6. A transdermal therapeutic system as claimed in any of claims 1 to 5 in which the calcium antagonist of the dihydropyridine type is lacidipine.
7. A transdermal therapeutic system as claimed in any of claims 1 to 5 in which the calcium antagonist of the dihydropyridine type is nifedipine.
8. The use of a calcium antagonist of the dihydropyridine type for the manufacture of a transdermal therapeutic system as claimed in any of claims 1 to 7 for administration of a calcium antagonist of the dihydropyridine type through a pre-determined area of intact skin for the treatment of cardiovascular disorders including hypertension.
9. A method for administering a calcium antagonist of the dihydropyridine type through a pre-determined area of intact skin and at an administration rate such as to reach and maintain an effective therapeutic dose of a calcium antagonist of the dihydropyridine type for the control of hypertension and other cardiovascular diseases which comprises applying to the skin a transdermal therapeutic system as claimed in any of claims 1 to 7.
10. A solution which is suitable for use in a transdermal therapeutic system as claimed in any of claims 1 to 7 which comprises
a drug reservoir containing a solution comprising
- a calcium antagonist of the dihydropyridine type,
 - an alcohol selected from the group consisting of ethanol, propanol, isopropanol and n-decyl alcohol,
 - a pyrrolidone derivative, and
 - a saturated or unsaturated fatty acid ester of a carboxylic acid containing 8 – 16 carbon atoms and a polyhydroxy alcohol.
11. A solution as claimed in claim 10 which comprises a calcium antagonist of the dihydropyridine type, ethanol, N-methyl-2-pyrrolidinone and sorbitan palmitate.

12. A method of treating hypertension which comprises administering an effective amount of a calcium antagonist of the dihydropyridine type in a transdermal therapeutic system as claimed in any of claims 1 to 7.

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